

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Safety Valve

with type designation(s)
Series 240

Issued to

BESA Ing. Santangelo S.p.A.
Settala MI, Italy

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL rules for classification – Ships Pt.4 Ch.7 Pressure equipment
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

K. factor: See certificate

Issued at **Hamburg** on **2017-03-01**

This Certificate is valid until **2022-02-28**.

DNV GL local station: **Milan**

for **DNV GL**

Approval Engineer: **Guido Friederich**

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Olaf Drews
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Full lift spring loaded safety valve for use of steam boilers, pressure vessels, thermal oil systems and piping systems.

Safety valve type series: 240

Safety valve types: 241-242; 241b-242b; 241F-242F

Technical data:

Size range: DN 20 to DN 100

Nominal size DN	20	25	32	40	50	65	80	100
Orifice diameter (mm)	18	23	29	37	46	60	74	92

Discharge coefficient:

	Gas	Liquid
Kd (certified)	0,81	0,55

Materials:

Type 241-C / 242-C:	Valve body carbon steel	EN 1.0619; ASTM A216 WCB
Type 241-I:	Valve body stainless steel	EN 1.4408; ASTM A351 CF8M

Pressure ratings:

Body material	Inlet Flange connection	Outlet Flange connection
EN 1.0619 ASTM A216 WCB	EN PN 16 to PN 40 ANSI Class 150/300	EN PN 16 ANSI Class 150
EN 1.4408; ASTM A351 CF8M	EN PN 16 to PN 40 ANSI Class 150/300	EN PN 16 ANSI Class 150

Temperature range:

Material	
EN 1.0619 / ASTM A216 WCB	-10°C to 425°C
EN 1.4408 / ASTM A351 CF8M	-196°C to 537°C

Application/Limitation

The safety valve types as described and specified above are type approved for the use on steam boilers, pressure vessels, thermal oil systems, piping systems and other pressurized systems.

Limitation

The safety valves may not be used on any pressurized systems for carriage and operation of media specified as toxic and/or dangerous fluid and cryogenic media on ships subject to the IGC Code.

Documentation

- Documentation of materials used for safety valves for installation on board of DNV GL classed ships in accordance with DNV GL Rules Part2 Materials and Welding, Chapter 1, Ch.2 and Ch.4. Material certificates in accordance with DNV GL Rules Pt. 4 Ch. 6 - Piping Systems, Table 3 - Material Certificates

Test and inspection

The following tests (to be done on each valve) are to be performed under the supervision by a DNV GL Surveyor:

- Hydraulic test to 1.5 times the maximum allowable set pressure
- Check of set pressure and reset pressure at room temperature. Set pressure to be sealed.
- Leak test after reset at 90% of each set pressure at room temperature.
- Sufficient valve capacity is to be approved for each application.
- Documents, signboards etc. which are to accompany each product/delivery:
 - Instruction and maintenance manuals.
 - Surveyor's Report.

Remark

The selection of the safety valves for the corresponding operation conditions as well as right installation under consideration of the used materials and media to be discharged have to be in compliance with the instructions of the manufacturer.

Type Approval documentation

Tests carried out

Safety valve performance tests according to EN ISO 4126-1,
dated 2002.02.01, 2005.05.19, 2002.02.06, 2002.03.26 [former GL Ref. 11-115358]

Marking of product

For traceability to this Type Approval the products are at least to be marked with:

- Manufacturer's name or trade mark
- Valve type designation
- Size
- Maximum design pressure and temperature
- Set pressure

Periodical assessment

A condition for retention of the Type Approval Certificate in its validity period is that periodical assessments are successfully carried out.

The objective of the periodical assessment is to verify that the conditions for the type approval have not been altered. The main scope of the periodical assessment will normally include:

- Verification of the TA applicant's production and quality system w.r.t ensuring continued consistent production of the type approved products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
- Review of the TA documentation and that this is still used as a basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking

END OF CERTIFICATE